Remarks

Amendments to the Claims

Claim 18 has been amended to restrict the peptide to between 5 and 60 amino acids in length, derived from the c-terminal region of osteopontin. Support for this amendment is found on page 5, at lines 10-16. It is clear from the examiner's remarks on page 4 that he has considered such limitations as important to the patentability of the claims, and corrected noted that they are not currently defined by either of claims 15 and 18. Accordingly, the amendment should be entered as narrowing issues on appeal, should the rejections of the claims be maintained.

Rejections Under 35 U.S.C. § 103

Claims 15 and 18 were rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 5,124,155 to Reich ("Reich") in view of Kiefer et al. *Nucleic Acids Res.* 17: 3306 (1989) ("Kiefer") or U.S. Patent No. 5,880,092 to Pierschbacher ("Pierschbacher") in view of Kiefer. Claims 15 and 18 were also rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 6,630,572 to Carney ("Carney"), in view of Kiefer. Applicants respectfully traverse these rejections.

The Legal Standard

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable

expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). The strongest rationale for combining references is a recognition, expressly or impliedly in the prior art or drawn from a convincing line of reasoning based on established scientific principles or legal precedent, that some advantage or expected beneficial result would have been produced by their combination. *In re Sernaker*, 702 F.2d 989, 994-95, 217 USPQ 1, 5-6 (Fed. Cir. 1983).

Analysis

Reich, Pierschbacher, and Carney state that RGD-containing peptides are effective to promote wound healing. It is important to note, as the examiner states at page 3, that RGD peptides ***"promote cell adhesion"***.

The claims are not drawn to cell adhesion peptides but to ***"chemotactic peptides"***. As the examiner is fully aware, cell adhesion is distinct from, and not predictive of, chemotaxis. As noted on page 5 at lines 6-8, the peptides of the invention are those that "induce the chemotaxis of several cell types including endothelial cells, tumor cells, macrophages and osteoprogenitor cells".

Therefore the fact that osteopontin contains an RGD sequence is irrelevant to the subject matter of the pending claims. Indeed, further evidence of this is found by reading page 5, just beyond the lines quoted by the examiner, at lines 14-15, which states that these fragments preferably include at least about 10-35 amino acid residues from the C-terminal region of osteopontin. Kiefer provides the amino acid sequence of full-length osteopontin. Osteopontin is

a polypeptide of more than 300 amino acids in length. The RGD sequence is found at position 163 (Kiefer), at least 137 amino acids away from the C-terminus of osteopontin, and therefore not in the preferred region of osteopontin for imparting chemotactic properties.

There is no suggestion in the references either alone or in combination to modify osteopontin a disclosed by Kiefer, to obtain ***chemotactic*** peptides or that one of ordinary skill in the art would have a reasonable expectation of success in promoting wound healing with claimed peptides.

The examiner has cited no art disclosing chemotactic peptides isolated from osteopontin. In fact, the examiner has cited no art disclosing chemotactic peptides of any form, only cell adhesive peptides.

35 U.S.C. 103 is very clear: the prior art must disclose the claimed elements and the prior art must provide the motivation to combine as applicant has done, with a reasonable expectation of success.

The examiner has not cited art disclosing chemotactic peptides.

The examiner has not cited art disclosing that osteopontin is chemotactic.

Therefore the art cannot make obvious the claimed peptides.

Examination of all pending claims on the merits is earnestly solicited.

Respectfully submitted,

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